New Course:

Functional and Comparative Zoology (3:0) A Krishnan  [A course number - 200 level, as its a basic course - will have to be assigned for this course]

Outline:

1. Introduction to phylogenetics/cladistics
2. Brief overview of the evolutionary history and diversity of life on earth
3. Basic biomechanics, allometry and scaling laws
4. Comparative anatomy, the biomechanics and evolution of feeding, the cranium and the feeding apparatus in vertebrates and invertebrates
5. Comparative anatomy, evolution and the biomechanics of posture and support
6. The evolution of limbs, and biomechanics of locomotion in land, air and water
7. Control theory and control of locomotion
8. The production and propagation of biological sound
9. Perception, form and function in hearing
10. Bat echolocation and the bat-moth arms race
11. Integument, the evolution and mechanisms of biological colour
12. The evolution of form and function in eyes and the perception of colour
13. The mechanisms and function of colour change, using cuttlefish and chameleons as examples
14. Animal architecture: the physics of structures that animals build
15. Paper discussions (interspersed throughout).